U.S. Department of Energy's
Office of Science

Program Area Presentation

Partnerships & Pilots

Advanced Scientific Computing Research
Strategic Planning workshop

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Partnerships & Pilots

Contribution of Program Element to Overall ASCR Strategic Goal

- Transfer research results from ASCR to scientists across the Office of Science;
- Test usefulness of ASCR research.
- Understand requirements for the future

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Planning horizon for Program Element

- Depends on type of Partnership:
  - SciDAC – 5 yrs
  - Genomes to Life – 10 years
  - Nanoscience – 5 years
  - Collaboratory Pilots – 5 years
- Planning Horizon determined in consultation with Partner.
  - Joint Workshops sponsored by ASCAC and *AC

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Areas of research Program Element currently invests in

- Scientific Application Partnerships
  - SciDAC
  - Genomes to Life
  - Nanoscience
- Collaboratory Pilot Projects
- SciDAC Integrated Software Infrastructure Centers (ISICs)

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How does Program Element transfer knowledge or provide services to application scientists?

- Workshops, publications, etc;
- SciDAC DOE Program Manager Weekly Meetings;
- Shared Postdocs and Graduate Students *(Exchange of Hostages)*;
- Selection of review teams;

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Program Element Strengths

- SciDAC has been very effective in transferring technology to applications;
- Success in overcoming some cultural barriers to interdisciplinary research;
- Keeps ASCR focused on needs of scientists;

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Program Area Weaknesses

- SciDAC is a relatively small effort in SC;
- Reward structure in research community not aligned with partnerships;
- Future workforce;
- Transition to team based science represents a phase shift in disciplines;
- Transition from partnership to operations is:
  - Expensive
  - No good model.

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Program Element Opportunities

- The leading edge science of the future depends on these partnerships, for example Fusion Simulation Project;

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Program Element Threats

- Managing Partnerships is expensive;
- Culture and reward systems in disciplines are a barrier;
- Risk of too short a planning horizon for research;
- Workforce: How will we train enough people to glue these partnerships together?

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Program Element Gap Analysis

- Long Term Support Strategy
- Workforce
  - Program Management
  - Research Community
- Training
- New Science Opportunities